AMENDMENTS TO THE CLAIMS

This listing of the claims will replace all prior versions, and listings, of claims in the application. Deleted material is shown in strike through, and inserted material is underlined, to show the changes made.

1-37. (Canceled).

38. (Previously Presented) The method of claim 110, further comprising the step of measuring the fluid flow rate wherein the fluid loop includes a flow rate sensor that measures the fluid flow rate and wherein the controlling of the fluid flow rate and the air flow rate includes the measured the fluid flow rate.

39. (Withdrawn) The method of claim 110, further comprising the step of controlling a flow valve, wherein the fluid loop includes the flow valve that controls the flow rate in and wherein the controlling of the fluid flow rate and air flow rate includes adjusting the flow valve.

40. (Previously Presented) The method of claim 110, wherein the at least one device comprises and electronic circuit.

41. (Canceled).

42. (Previously presented) The method of claim 110, wherein the heat exchanger contains internal flow regions for distributing fluid, and wherein the fluid is distributed through the internal flow regions of the heat exchanger.

43. (Canceled).

44. (Withdrawn) The method of claim 41, wherein the at least one fan is maintained at a constant maximum speed and the at least one pump is controlled such that the temperature value of the device is maintained below a maximum allowable temperature and acoustics transients are reduced below a given limit.

45. (Withdrawn) The method of claim 41, wherein the at least one fan is ramped up to a maximum speed and the at least one pump is controlled such that the temperature value of the device is maintained below a maximum allowable temperature and acoustic transients are reduced below a given limit.

46. (Withdrawn) The method of claim 41, wherein the at least one fan is ramped down to a minimum speed and the at least one pump is controlled such that the temperature value of the device is maintained below a maximum allowable temperature and acoustic transients are reduced below a given limit.

47. (Withdrawn) The method of claim 37, further including the step of providing at least one current sensor coupled to the at least one device, to provide information which is representative of current delivered to the at least one device and indicative of power consumed by the at least one device, wherein the controller is coupled to receive the information provided by the at least one current sensor.

48. (Withdrawn) The method of claim 37, further including the step of providing at least one sensor measuring a pressure of the fluid at any position in the system, wherein the controller is coupled to receive the information provided by the at least one sensor.

49. (Previously Presented) The method of claim 108, further comprising the step of measuring the temperature of the ambient air around the device, wherein the at least one additional temperature sensor measures an ambient air temperature and wherein the controlling of the fluid flow rate and the air flow rate is further based on the measured ambient air temperature.

50. (Previously Presented) The method of claim 108, further comprising the step of measuring the temperature of the fluid within the cooling loop, wherein the at least one additional temperature sensor measures the fluid temperature at a point in the cooling loop.

51. (Withdrawn) The method of claim 37, wherein the controller adjusts a current supplied to the at least one pump in response to the measured temperature value of the device.

52. (Withdrawn) The method of claim 37, wherein the controller adjusts a voltage supplied to the at least one pump in response to the measured temperature value of the device.

53. (Withdrawn) The method of claim 37, wherein the controller adjusts a current supplied to the at least one fan in response to the measured temperature value of the device.

54. (Withdrawn) The method of claim 37, wherein the controller adjusts a voltage supplied to the at least one fan in response to the measured temperature value of the device.

55. (Withdrawn) The method of claim 37, wherein the controller adjusts an average power supplied to the at least one fan with a pulse width modulated signal.

56. (Withdrawn) The method of claim 37, further including a valve for regulating the fluid flow rate, which is selectively opened and closed to a variable state in response to the measured temperature value.

57. (Withdrawn) The method of claim 37, wherein the at least one pump is controlled independently of the at least one fan.

58. (Withdrawn) The method of claim 37, wherein the at least one pump is controlled cooperatively with the at least one fan.

59. (Withdrawn) The method of claim 37, wherein a power consumption of the cooling system is reduced to a minimal level by changing a power to the at least one pump and the at least one fan.

60. (Withdrawn) The method of claim 37, wherein a noise of the at least one pump is held constant while the at least one fan is used to control the temperature value of the device.

61. (Withdrawn) The method of claim 37, wherein a noise of the at least one fan is held constant while the at least one pump is used to control the temperature value of the device.

62. (Withdrawn) The method of claim 37, wherein time variations in noise level of the at least one fan are minimized according to a predetermined criteria.

63. (Withdrawn) The method of claim 37, wherein time variations in noise level of the at least one pump are minimized according to a predetermined criteria.

64. (Withdrawn) The method of claim 37, wherein time variations in noise level of the at least one pump and the at least one fan are minimized according to a predetermined criteria.

65. (Withdrawn) The method of claim 37, wherein a sum of the noise level of the at least one fan and the at least one pump is minimized.

66. (Withdrawn) The method of claim 37, wherein the temperature values of the at least one device are maintained between a minimum temperature level and a maximum temperature level, such that the power consumption of the cooling system is reduced to a minimum level.

67. (Withdrawn) The method of claim 37, wherein the controller includes a control algorithm based on a thermal time constant, wherein the thermal time constant is a product of a thermal resistance value and a thermal capacitance value.

68. (Withdrawn) The method of claim 67, wherein the thermal time constant is being applied to develop optimal control schemes for at least one of the at least one pump and the at least one fan, in response to power consumed from the at least one device.

69. (Withdrawn) The method of claim 68, wherein the optimal control schemes include increasing a fluid flow rate of the at least one pump, with no increase of air flow rate of the at least one fan.

70. (Withdrawn) The method of claim 68, wherein the optimal control schemes include increasing a fluid flow rate of the at least one pump, with a gradual increase of air flow rate of the at least fan, so that acoustic noise variations are maintained below a predetermined limit.

71. (Withdrawn) The method of claim 68, wherein the optimal control schemes include gradually decreasing an air flow rate of the at least one fan such that acoustic noise variations are maintained below a predetermined limit.

72. (Withdrawn) The method of claim 68, wherein the optimal control schemes include decreasing a fluid flow rate of the at least one pump, with no increase of air flow rate of the at least one fan.

73-107. (Canceled).

108. (Previously presented) The method of claim 110, wherein at least one additional temperature sensor measures at least one additional temperature value in the cooling system.

109. (Previously presented) The method of claim 42, wherein the internal flow regions comprise microchannels.

110. (Previously presented) A method of controlling a fluid flow rate and an air flow rate, for cooling at least one device in a cooling system comprising a controller, at least one sensor, at least one fan, and a fluid loop comprising at least one pump, a heat rejector, a heat exchanger mechanically thermally coupled with the at least one device, and a thermally conductive fluid, the method comprising the steps of:

measuring a temperature, wherein the at least one sensor is a first temperature sensor coupled to the heat exchanger;

controlling a fluid flow rate and an air flow rate based on the first temperature such that the first temperature is maintained below a maximum allowable temperature, wherein a controller controls the at least one fan and the at least one pump to set the fluid flow rate and the air flow rate.

111. (Previously presented) The method of claim 108, further comprising the step of measuring the temperature of the ambient air around the heat rejector, wherein the at least one additional temperature sensor measures an ambient air temperature around the heat rejector and wherein the controlling of the fluid flow rate and the air flow rate is further based on the measured ambient air temperature.